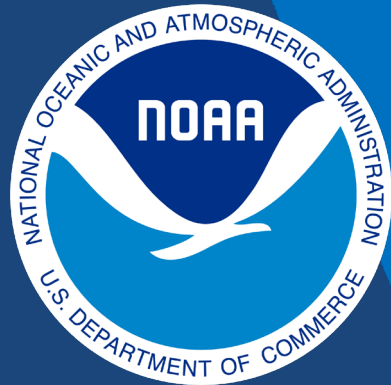


# NOAA Climate Science and Services Monthly Climate Update



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Meteorologist, NOAA Climate Prediction Center

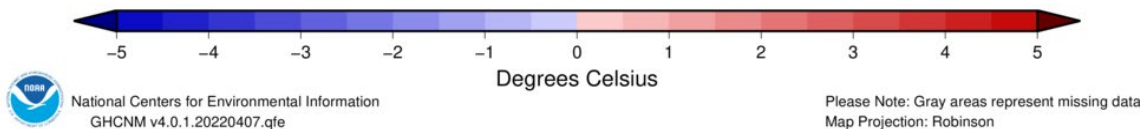
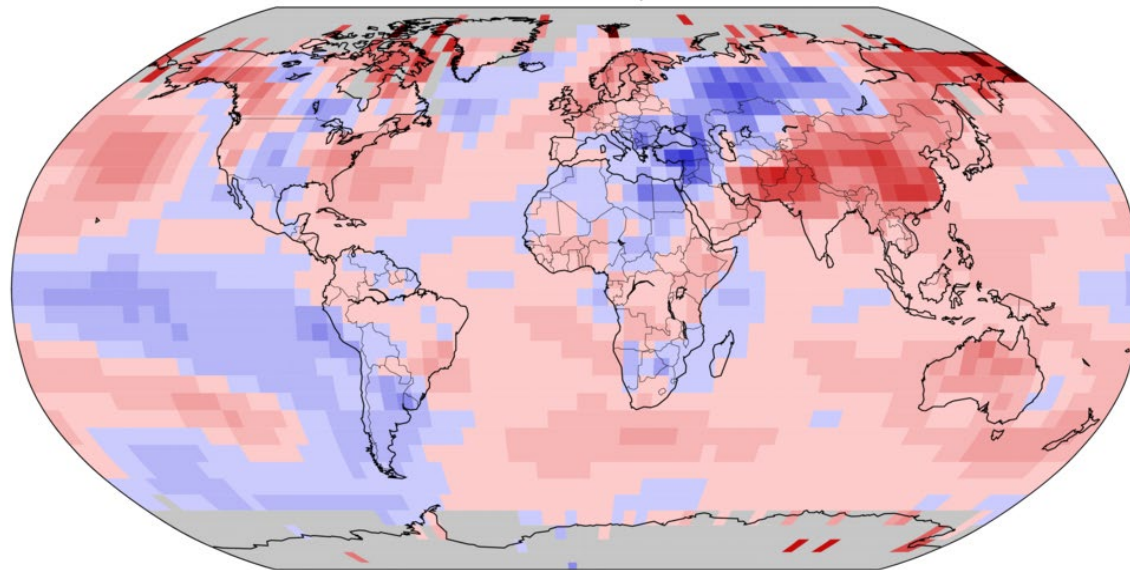
National Oceanic and  
Atmospheric Administration

April 2022

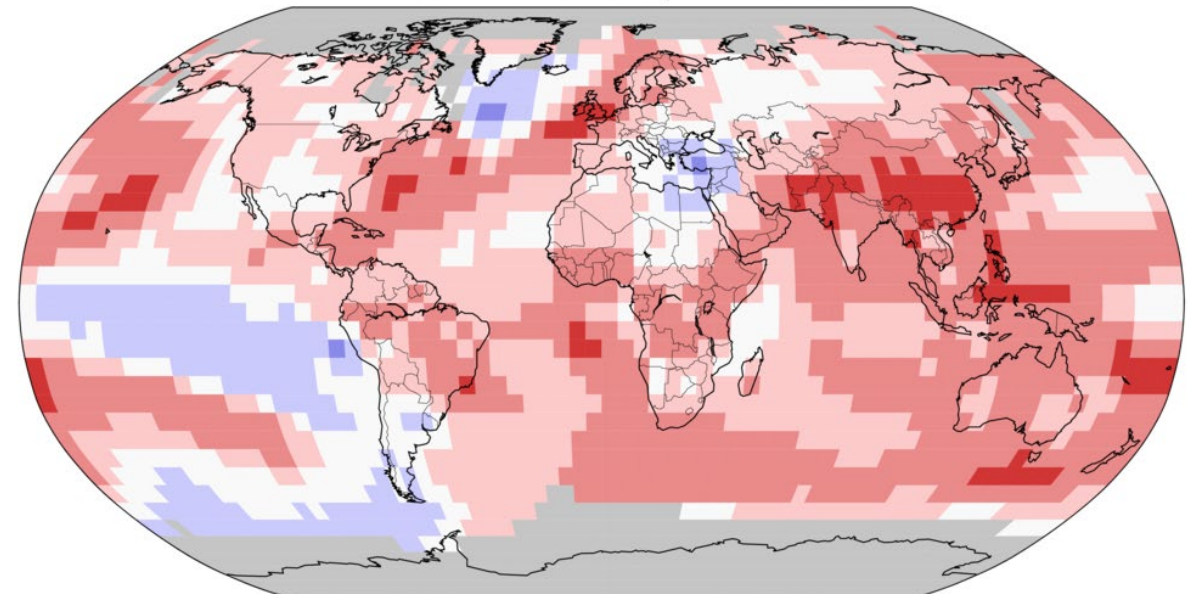
# March 2022 Global Temperature

The global temperature record dates back to 1880 (143 years)

Land & Ocean Temperature Departure from Average Mar 2022  
(with respect to a 1991–2020 base period)  
Data Source: NOAAGlobalTemp v5.0.0–20220408



Land & Ocean Temperature Percentiles Mar 2022  
NOAA's National Centers for Environmental Information  
Data Source: NOAAGlobalTemp v5.0.0–20220408



- **Global Land & Ocean:**  $+0.95^{\circ}\text{C}$  /  $+1.71^{\circ}\text{F}$ ; 5<sup>th</sup> warmest Mar on record
- **Global Land:**  $+1.66^{\circ}\text{C}$  /  $+2.99^{\circ}\text{F}$ ; 8<sup>th</sup> warmest Mar on record
- **Global Ocean:**  $+0.68^{\circ}\text{C}$  /  $+1.22^{\circ}\text{F}$ ; 5<sup>th</sup> warmest Mar on record

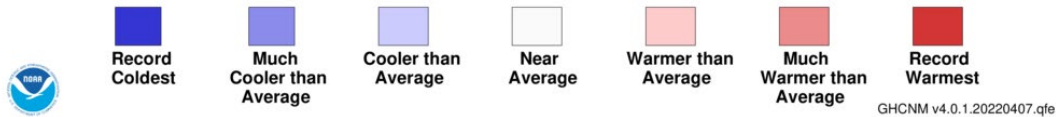
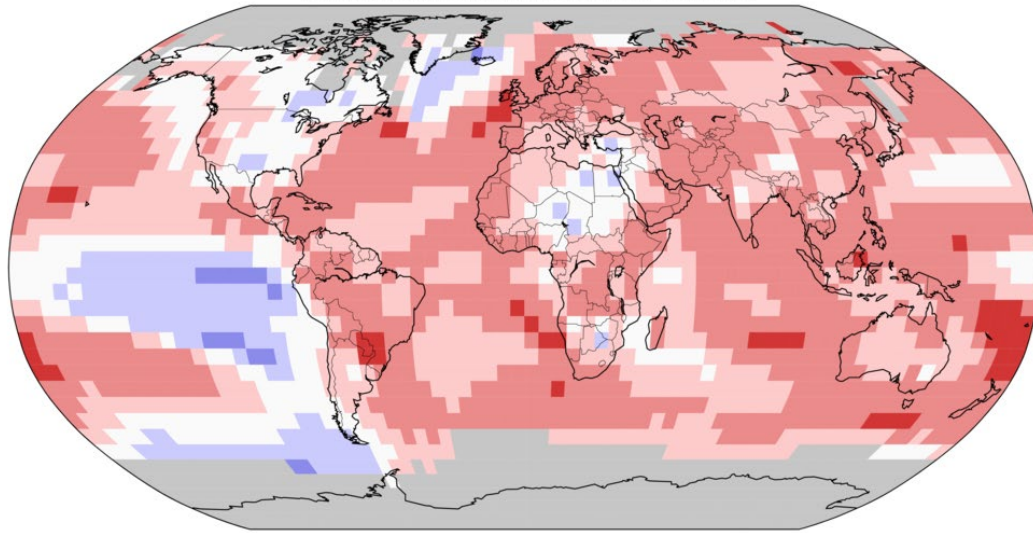
# January-March 2022 Global Temperature

The global temperature record dates back to 1880 (143 years)

## Land & Ocean Temperature Percentiles Jan-Mar 2022

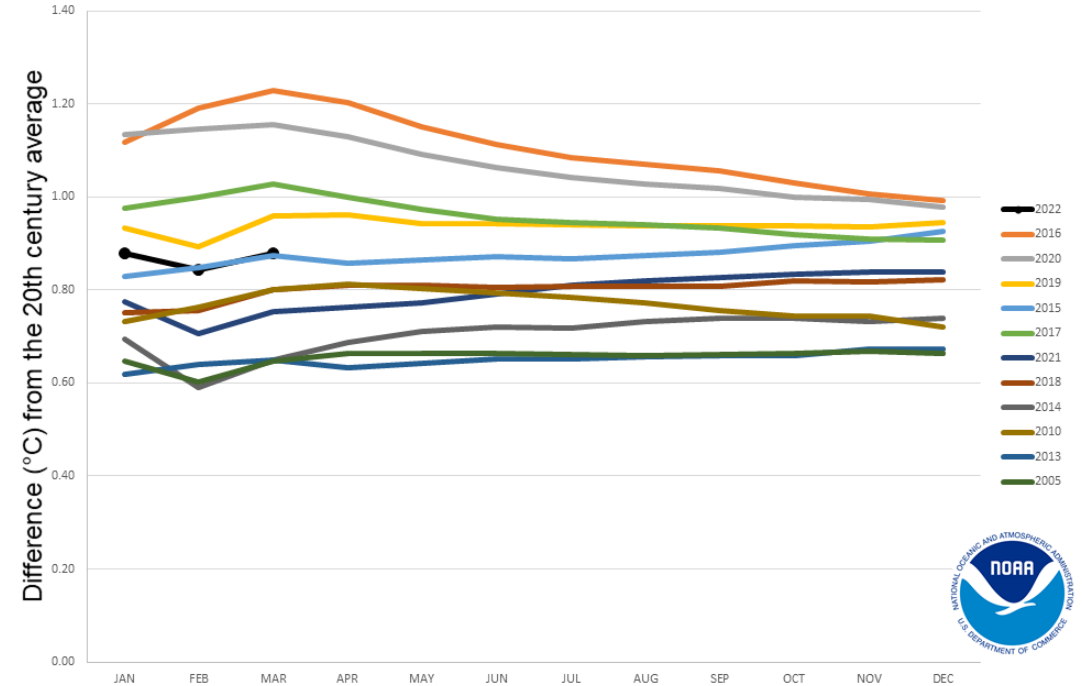
NOAA's National Centers for Environmental Information

Data Source: NOAAGlobalTemp v5.0.0-20220408

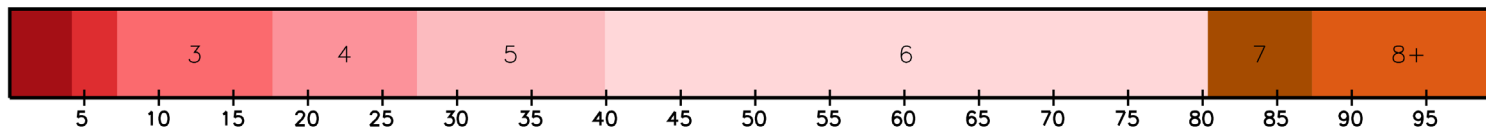


## Year-to-date Global Temperatures

for 2022 and the ten warmest years on record



**Global Land & Ocean: +0.88°C / +1.58°F; the 5<sup>th</sup> warmest Jan-Mar on record**



- ~40% chance of top 5 year
- Very likely to rank among 10 warmest years

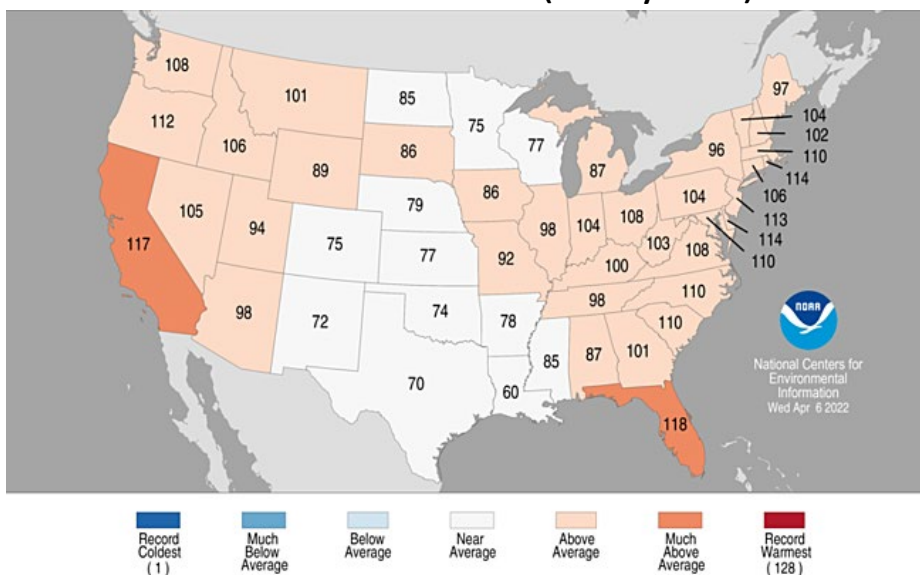


# Contiguous U.S. March 2022

**Temperature:** 44.1°F, +2.6°F, “above average”

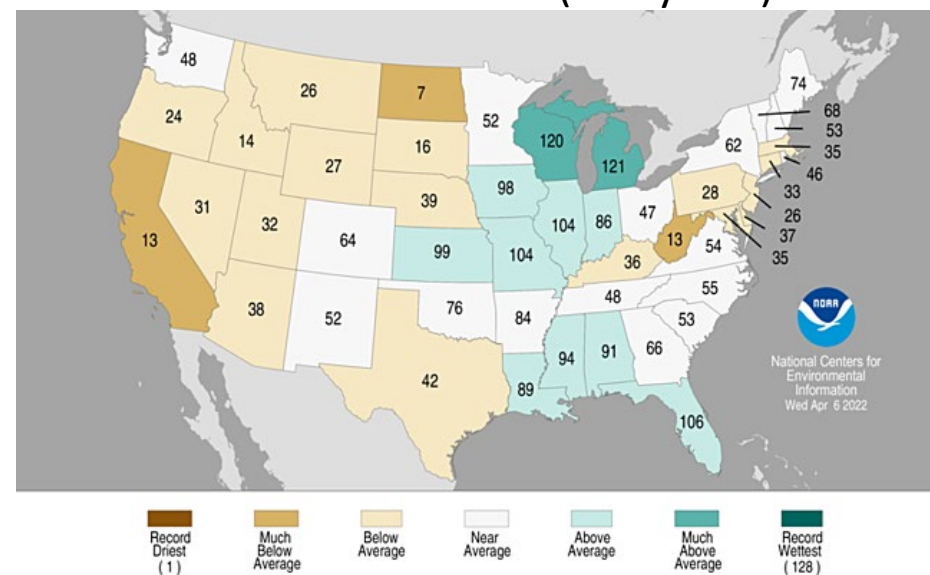
**Precipitation:** 2.26”, -0.25”, “below average”

Temperature Percentiles March 2022  
Period: 1895-2022 (128 years)



- Above-average temperatures across much of West, Midwest to the East Coast
- Below-average temperatures observed in pockets of western Gulf Coast

Precipitation Percentiles March 2022  
Period: 1895-2022 (128 years)



- Above-average precipitation from c Plains to Great Lakes and along Gulf Coast states.
- Drier-than-average conditions observed across much of West, n & s Plains, from TN Valley to Mid-Atlantic & parts of Northeast
- ND – 7<sup>th</sup> driest; MI – 8<sup>th</sup> wettest

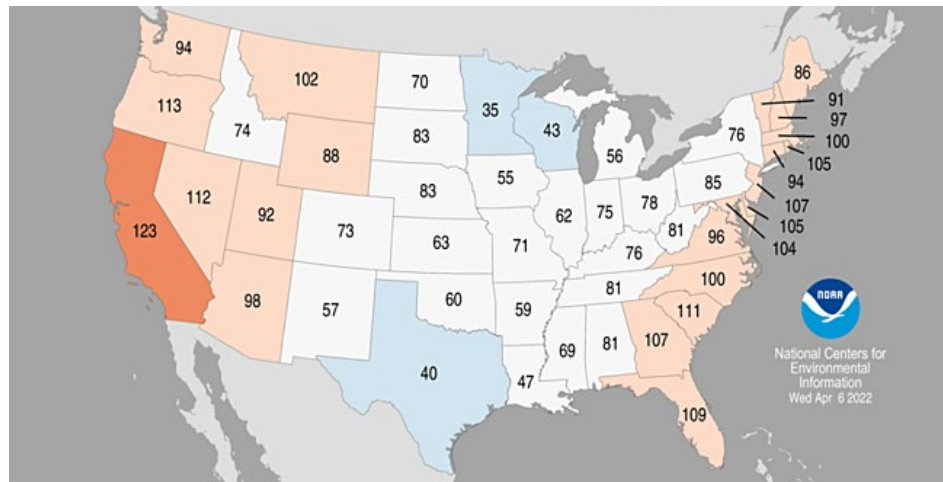


# Contiguous U.S. January-March 2022

**Temperature:** 36.3°F, +1.2°F, “near average”

**Precipitation:** 5.66”, -1.30”, 7<sup>th</sup> driest Jan-Mar on record

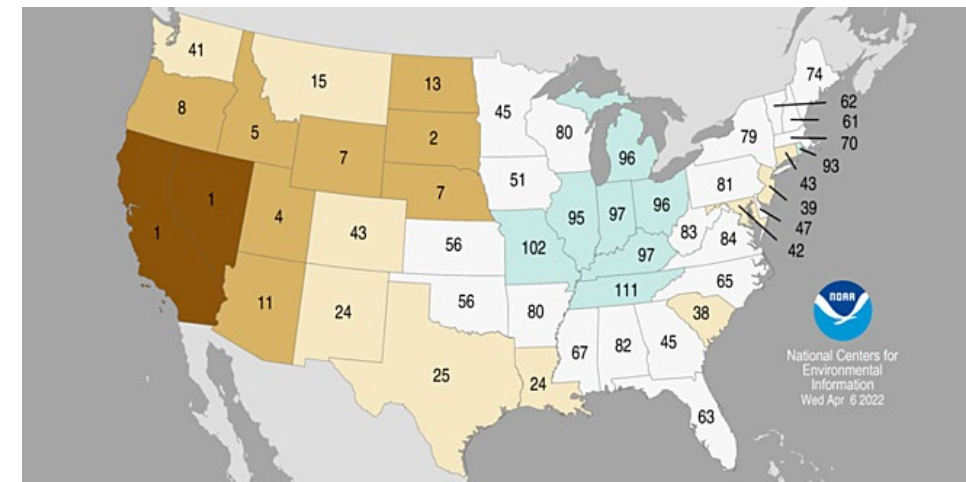
Temperature Percentiles Jan-Mar 2022  
Period: 1895–2022 (128 years)



Record Coldest (1)  
Much Below Average  
Below Average  
Near Average  
Above Average  
Much Above Average  
Record Warmest (128)

- Above-average temperatures across much of West & East Coast
- CA – 6<sup>th</sup> warmest Jan-Mar on record
- Below-average temperatures across parts of Upper MS Valley & Deep South

Precipitation Percentiles Jan-Mar 2022  
Period: 1895–2022 (128 years)



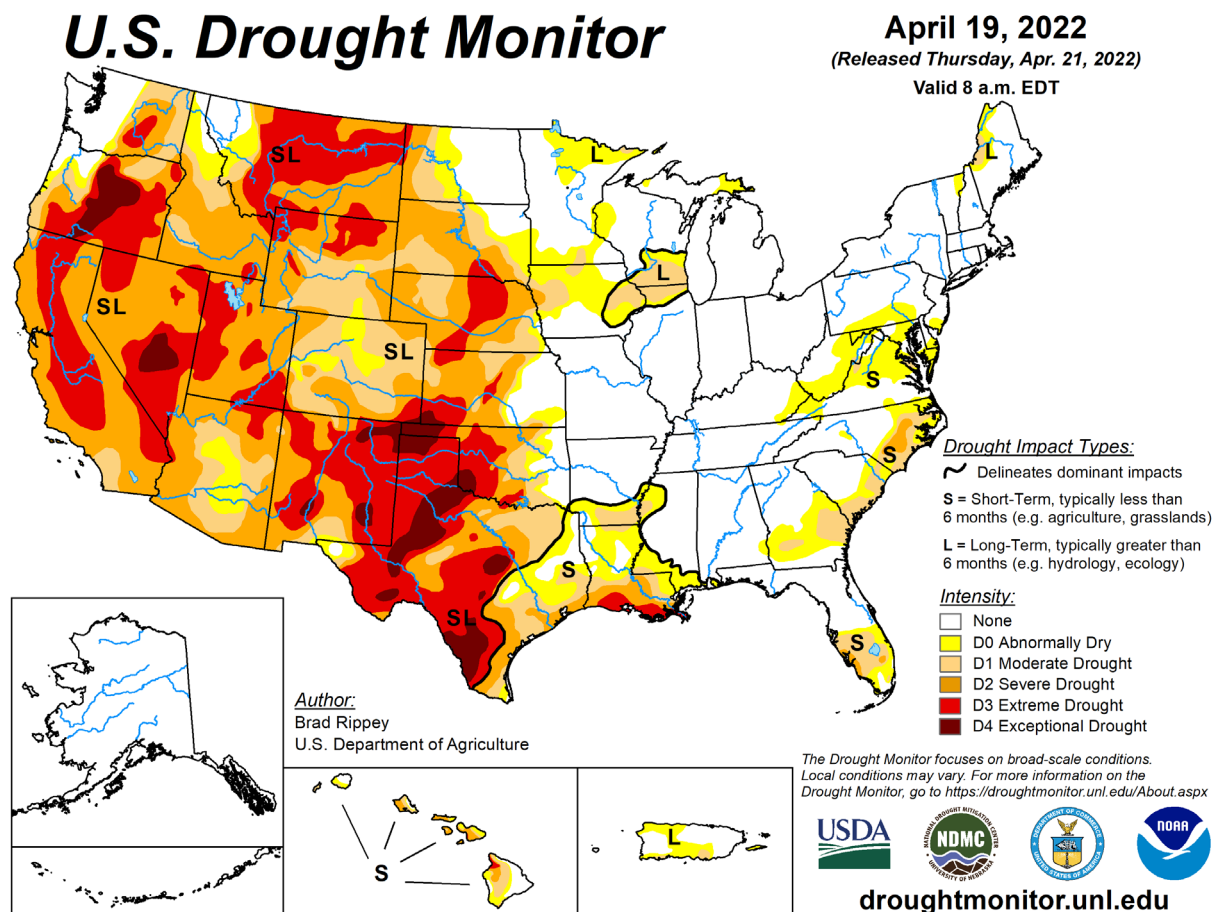
Record Driest (1)  
Much Below Average  
Below Average  
Near Average  
Above Average  
Much Above Average  
Record Wettest (128)

- Above-average precipitation from mid-MS Valley to Great Lakes
- Below-average precipitation across much of West, n Plains, Deep South & parts of Southeast & Mid-Atlantic states
- CA & NV – driest Jan-Mar on record; SD – 2<sup>nd</sup> driest

# Current U.S. Drought

~55% of Contiguous U.S. in Drought

(↓ ~5.5 percentage points since mid-March)



- Improvement  
Lower MS Valley, Great Lakes  
Parts of Southeast
- Degradation  
Parts of West, central & southern  
Plains
- Outside CONUS  
Drought extent lessened across  
Hawaii, but intensified on Hawaii's  
Big Island

# Key points

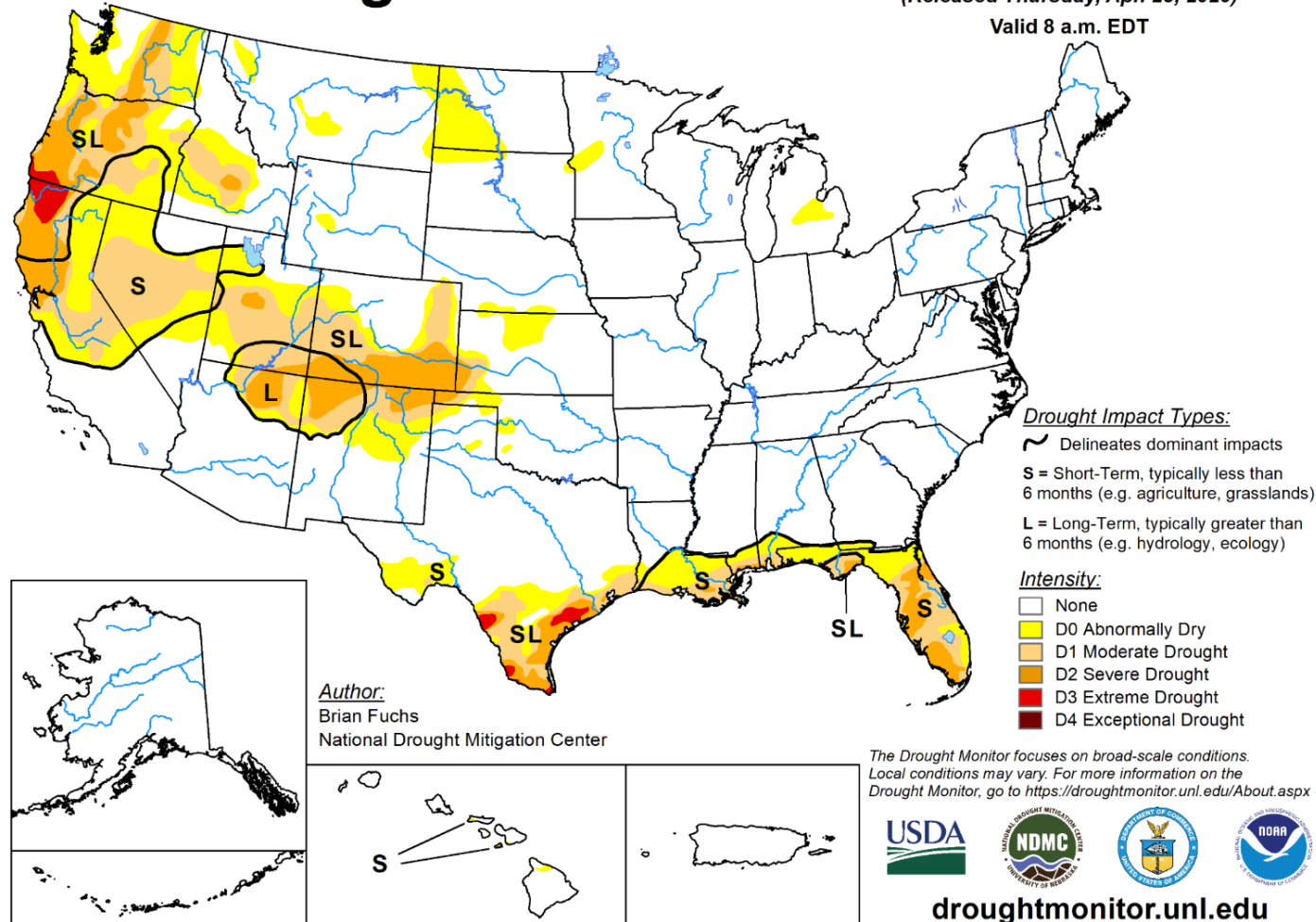
- West is facing another year of drought
- Record-breaking dryness in California
- Critically low reservoirs in Colorado River
- Anticipated impacts in the billions of dollars



# Three years of drought - April 2020

## U.S. Drought Monitor

April 21, 2020  
(Released Thursday, Apr. 23, 2020)  
Valid 8 a.m. EDT



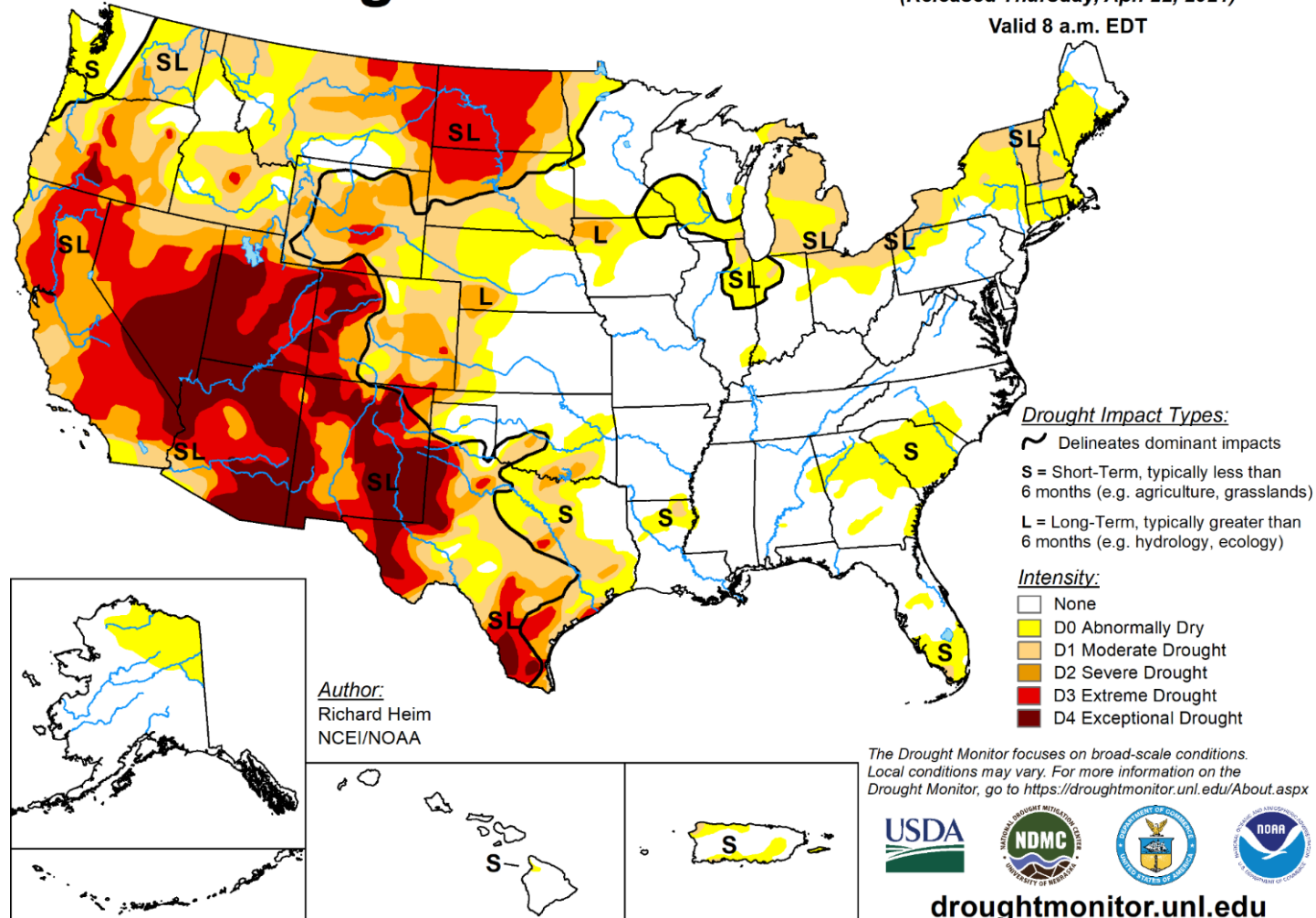
# Three years of drought - April 2021

## U.S. Drought Monitor

April 20, 2021

(Released Thursday, Apr. 22, 2021)

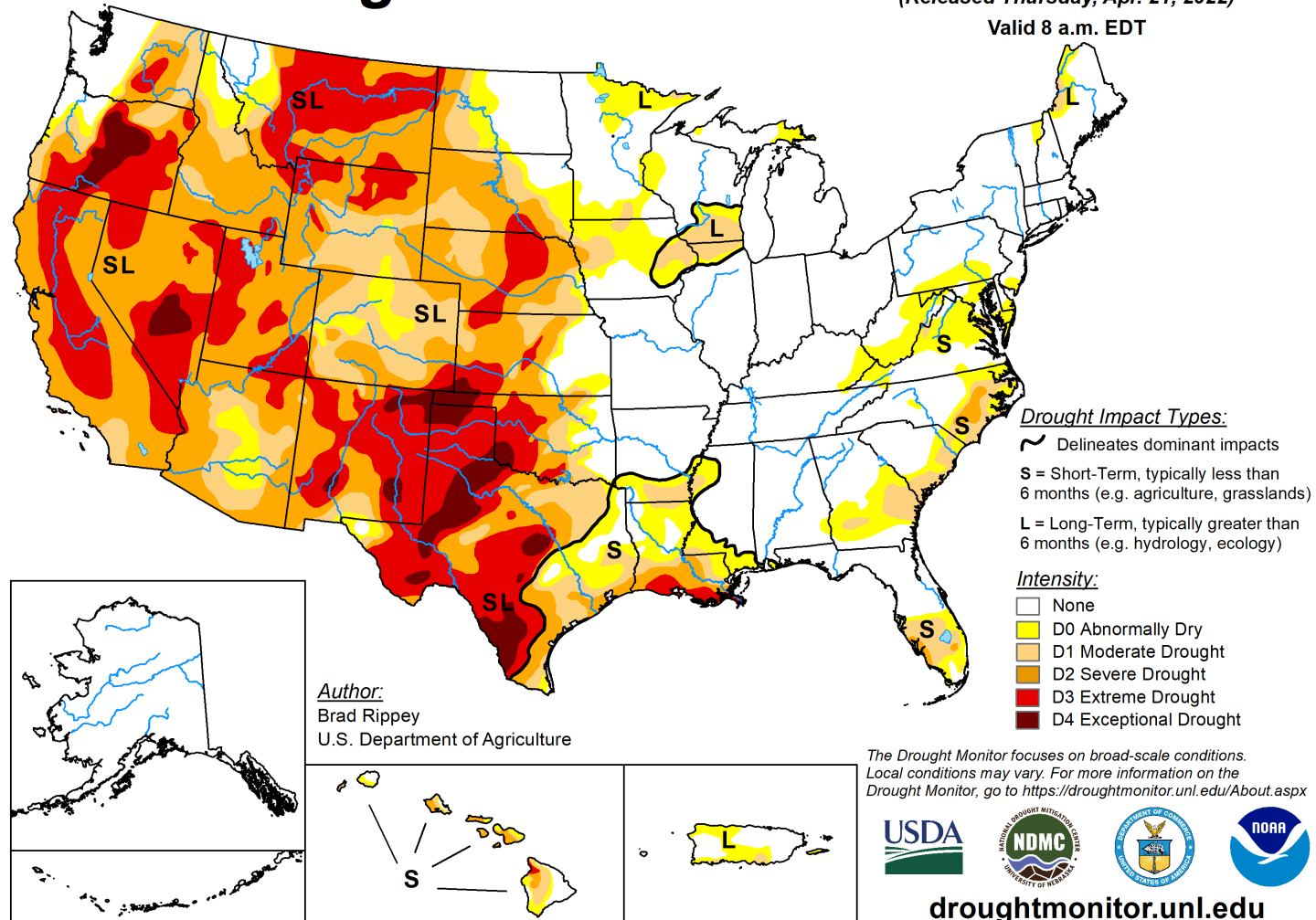
Valid 8 a.m. EDT



# Three years of drought - April 2022

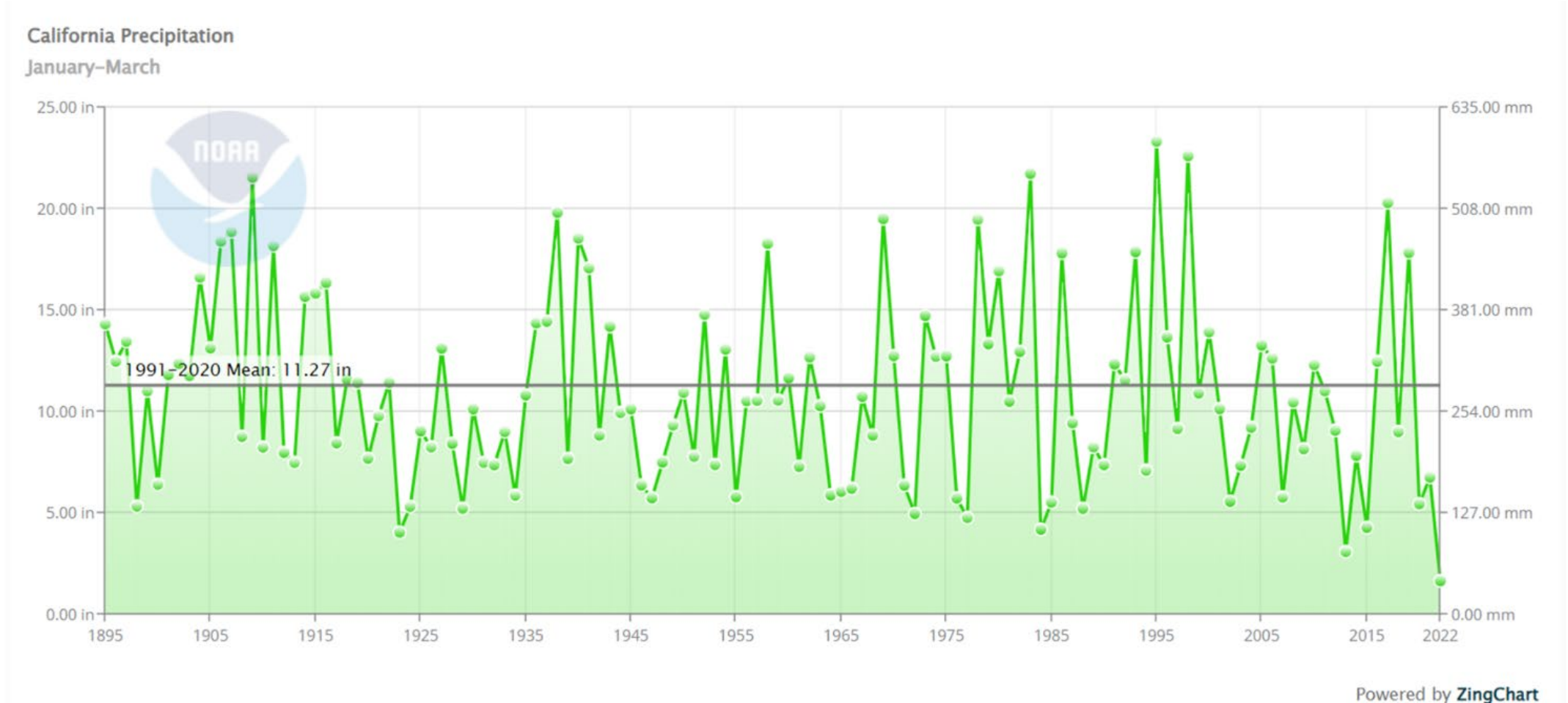
## U.S. Drought Monitor

April 19, 2022  
(Released Thursday, Apr. 21, 2022)  
Valid 8 a.m. EDT

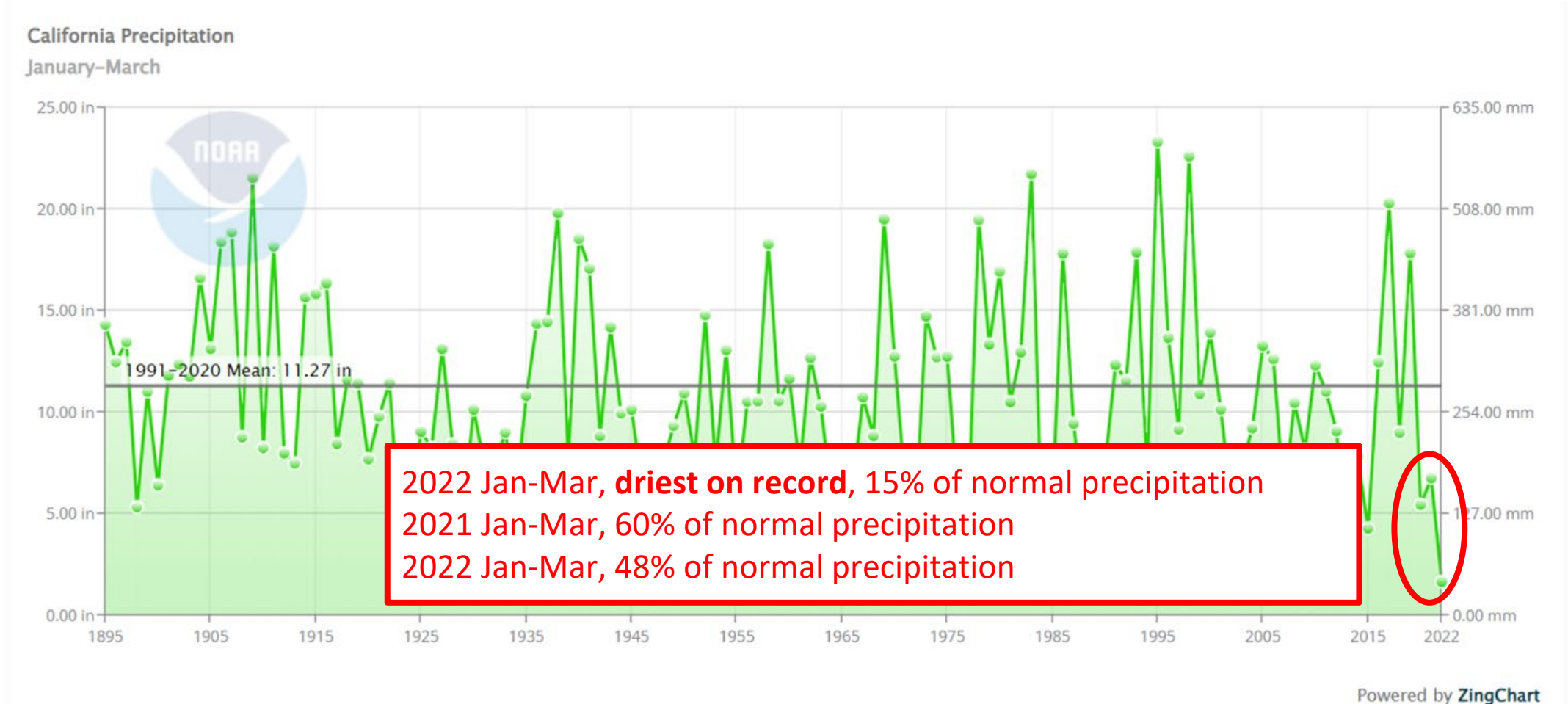




# California - Dry January, February, and March



# California - Dry January, February, and March





# Low storage in Colorado River reservoirs



March 2021, Lake Powell

<https://www.nps.gov/glca/learn/changing-lake-levels.htm>

Credit: National Park Service



December 2021, Lake Powell

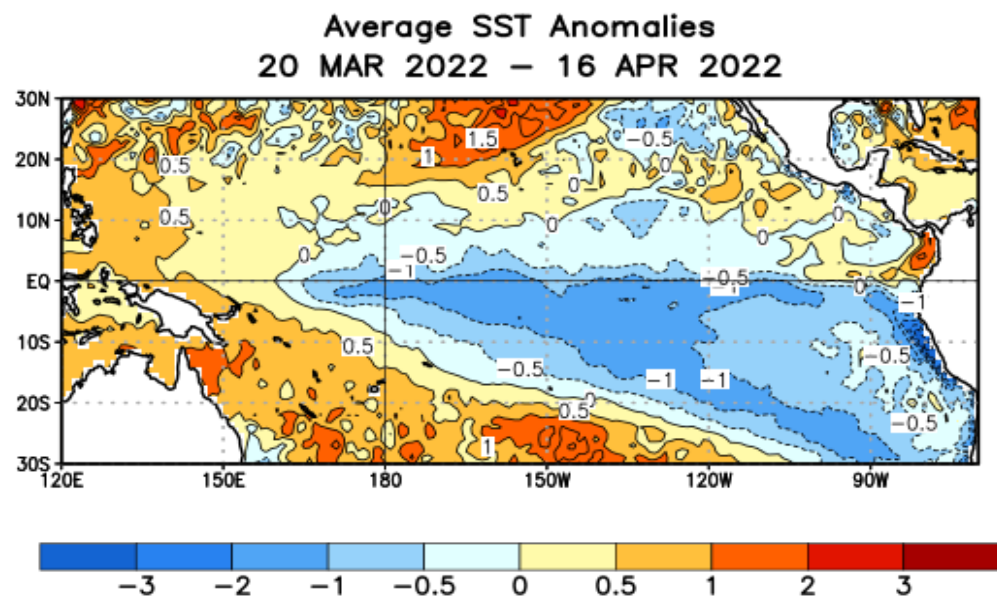




# Anticipated impacts of drought

- **Many Western water users will not receive full allocation**
- **Hydropower, food, fish, and fire impacts likely**
- **2020 and 2021 → impacts in the billions of dollars**

# Sea Surface Temperatures and ENSO

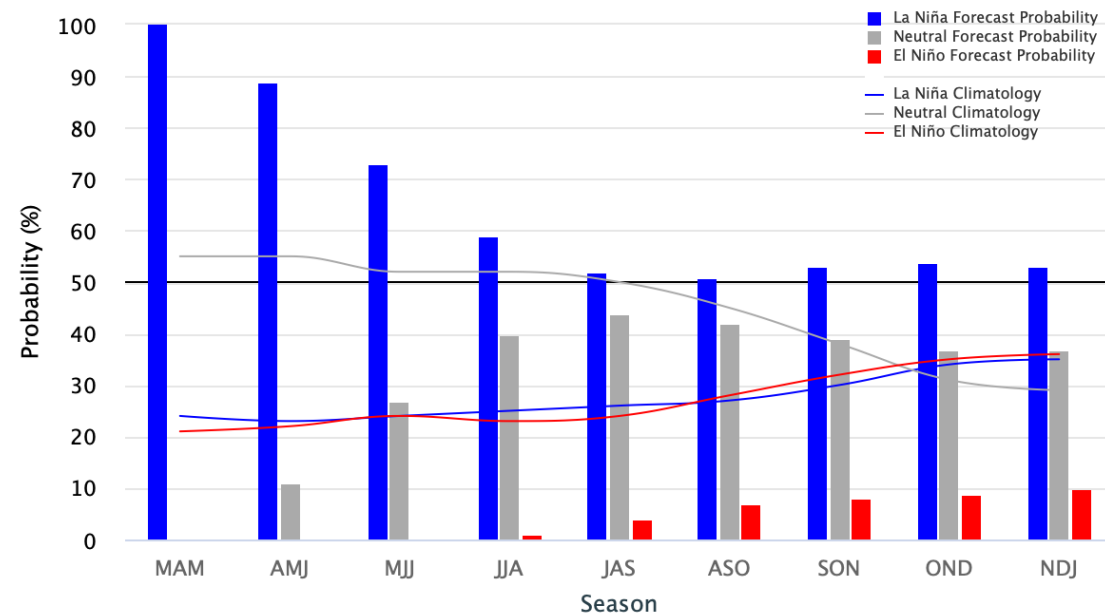


- Sea surface temperatures

- Below normal sea surface temperatures continue across the central and eastern Pacific Ocean near the equator
- The oceanic and atmospheric observations currently reflect La Niña conditions

Early-April 2022 CPC/IRI Official Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly  
Neutral ENSO:  $-0.5^{\circ}\text{C}$  to  $0.5^{\circ}\text{C}$



- ENSO forecast

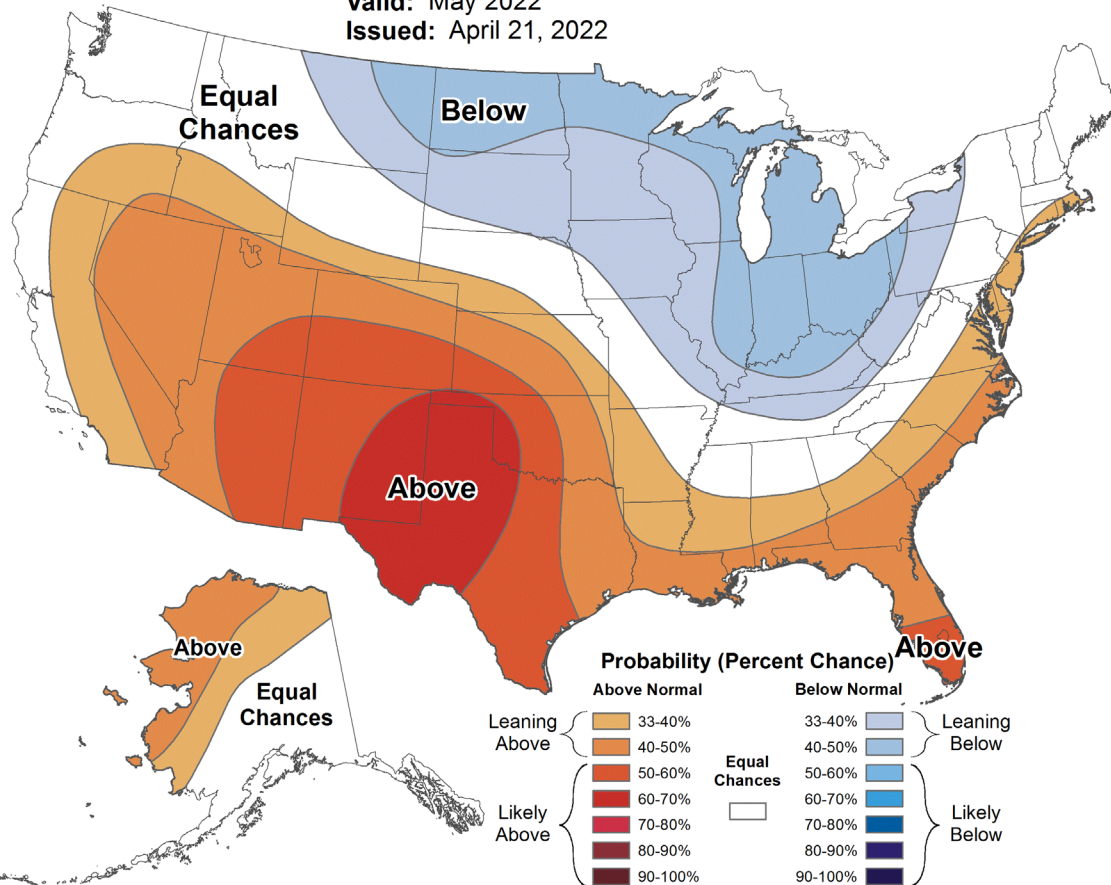
- La Niña is likely throughout the remainder of 2022 (greater than 50% chance)
- Chances of El Niño are very small (less than 10 percent through the rest of 2022)

# Monthly Forecast (May)

May Average  
Temperature Probability

## Monthly Temperature Outlook

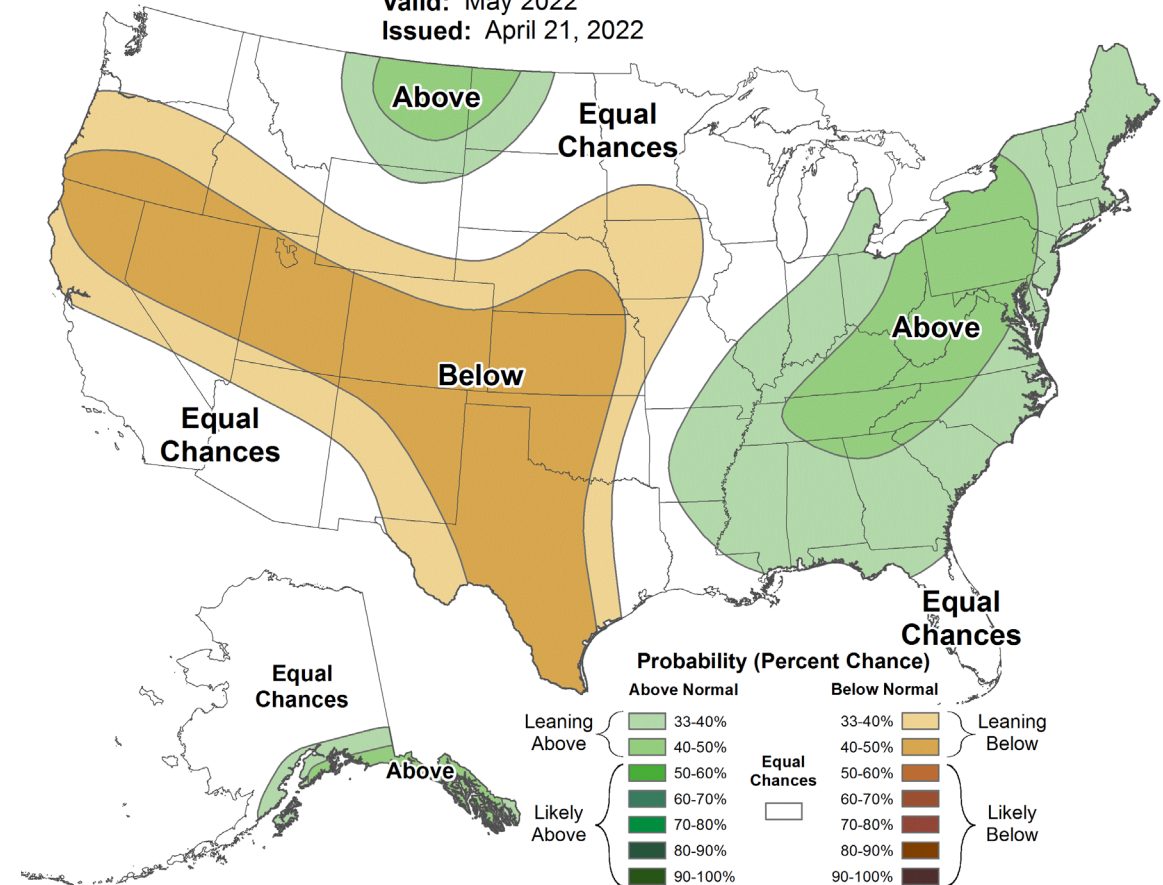
Valid: May 2022  
Issued: April 21, 2022



May Total  
Precipitation Probability

## Monthly Precipitation Outlook

Valid: May 2022  
Issued: April 21, 2022



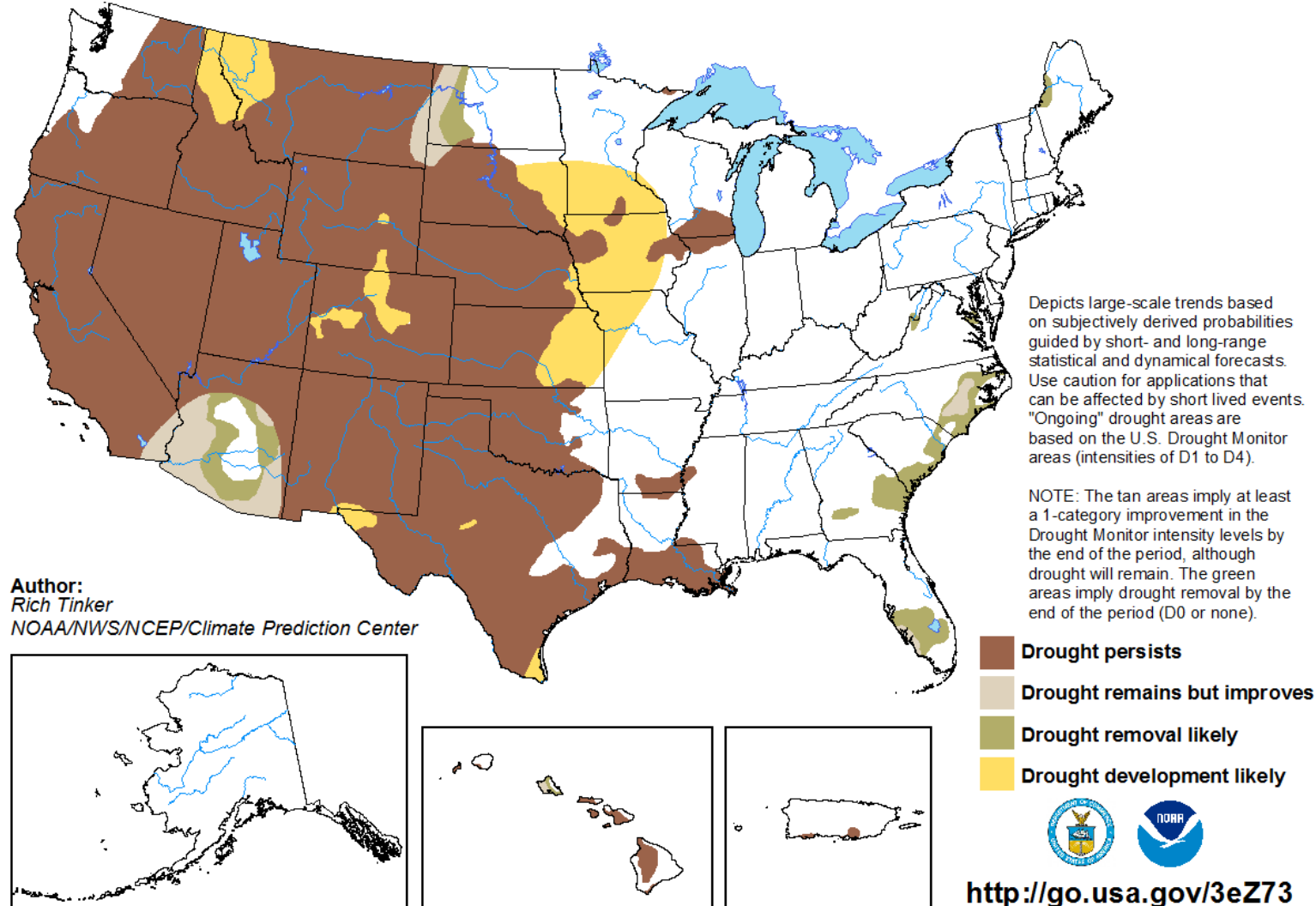




# U.S. Drought Outlook

## U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for April 21 - July 31, 2022  
Released April 21



# For More Information



## TODAY'S PRESENTATION:

- <http://www.ncdc.noaa.gov/sotc/briefings>

## NOAA's National Centers for Environmental Information: [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

- Monthly climate reports (U.S. & Global): [www.ncdc.noaa.gov/sotc/](http://www.ncdc.noaa.gov/sotc/)
- Dates for upcoming reports: <https://www.ncei.noaa.gov/access/monitoring/dyk/monthly-releases>

## NOAA's Climate Prediction Center: [www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)

## U.S. Drought Monitor: [www.drought.gov](http://www.drought.gov)

## Climate Portal: [www.climate.gov](http://www.climate.gov)

## NOAA Media Contacts: [john.jones-bateman@noaa.gov](mailto:john.jones-bateman@noaa.gov), 202-424-0929 (NOAA/NESDIS PAO)

